The Effect of Age and Time Perspective on Implicit Motives

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BRIEF REPORT

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Abstract

People differ in how open-ended or limited they perceive their future. We argue that individual differences in future time perspective affect the activation of implicit motives. Perceiving the time remaining for the satisfaction of one's motives as limited should be associated with a higher activation of these motives than perceiving one's future as more open-ended. Given that future time perspective decreases across adulthood, older adults should score higher on implicit motives than younger adults. This hypothesis was supported in a study with young (n = 53, age M = 25.60 years) and older adults (n = 55, age M = 68.05 years). Additionally, an experimental manipulation of future time perspective showed that age-related differences in implicit motives are influenced by future time perspective. These findings demonstrate that future time perspective is an important factor to explain the strength of motives.

Keywords: implicit motives, future time perspective, adult age differences, lifespan development

The Effect of Age and Time Perspective on Implicit Motives

Do we seek the same fundamental things – love, power, achievement – with the same intensity throughout our lives? Or, in other words, are implicit motives stable across the lifespan? Does the way we perceive our future affect the intensity of motives? These are the central questions we address in the current article.

People differ in how open-ended or limited they perceive their personal future. Fung, Carstensen, and Lutz (1999) have shown that a long future time perspective is associated with expectations of many options and possibilities for the achievement of one's goals and projects, and a short future time perspective is associated with expectations of few options and possibilities. Because a short future time perspective leaves little room for satisfying not only one's goals but also one's motives, perceiving one's future as limited might also be associated with an increased urgency to satisfy implicit motives. In other words, perceiving the time for the satisfaction of one's motives as limited should be associated with a stronger activation of these motives than believing that the satisfaction of one's motives is possible in an extended future. Given that future time perspective decreases across adulthood (Lang & Carstensen, 2002), older adults should show a higher intensity in their implicit motives than younger adults. We tested this hypothesis in a study with young and older adults. Additionally, we manipulated future time perspective in the same sample to compare the intensity of implicit motives between individuals with an experimentally extended and reduced future time perspective. The results of the current study will help to clarify if and why implicit motives change across adulthood.

Implicit Motives and Their Development across Adulthood

Implicit motives are relatively enduring preferences for a broadly defined class of incentives that direct and energize behavior (McClelland, Koestner, & Weinberger, 1989). They are related to the intrinsic enjoyment of and affective preference for activities congruent with the

motive (Brunstein, 2006; McClelland et al, 1989). Three distinct motives are often referred to as the "big three," namely achievement, power, and affiliation/intimacy (Winter, 1994). Achievement motives denote the desire to accomplish something difficult and to attain a high level of excellence (Pang, 2010a; Winter, 1994). At the core of power motives lies the wish to influence other people and have an impact on one's environment (Fodor, 2010). Finally, affiliation/intimacy motives are associated with a special interest in feeling connected to other people (Winter, 1994).

Although conceived as trait-like dispositions, there is a considerable amount of research demonstrating that implicit motives can be manipulated by situational cues, thus attesting to their malleability (e.g., McClelland & Winter, 1969; Schultheiss, Wirth, & Stanton, 2004). Research has largely neglected the development of implicit motives across adulthood. The lack of interest in the adult development of motives might be rooted in the assumption that implicit motives are stable dispositions that are acquired and shaped in early (preverbal) childhood (McClelland et al., 1989). To our knowledge, there are only two studies addressing age-related changes in implicit motives across adulthood. In contrast to the stability assumption, these two studies demonstrated that implicit motives change with age. Veroff, Reuman, and Feld (1984) found differences between young, middle-aged, and older adults in implicit affiliation, achievement, and power motives: Women showed lower scores in need for affiliation and need for achievement with increasing age. Middle-aged men scored higher in need for power in comparison to younger and older men. A longitudinal study by Franz (1994) found an increase in achievement as well as in affiliation motivation between the age of 31 and ten years later for both sexes. No effects were found for power motivation. Although the results on the direction of these age-related changes are inconsistent, both studies illustrate that implicit motives are less stable than originally assumed. Even less is known about the processes that might underlie these changes. In this

article, we aim to close this theoretical and empirical gap. We focus on future time perspective as a potential mechanism underlying age-related changes in implicit motives across adulthood.

The Role of Future Time Perspective for the Adult Development of Implicit Motives

Motivation seems to increase when time decreases. As Gjesme (1996) put it, "any goal perceived far away in time receives less weight than a goal in the very near future" (p. 216). In line with this assumption, Förster, Higgins, and Idson (1998) demonstrated that motivation increases as people move closer to goal attainment (the "goal looms larger" effect, see also Lewin, 1935; Miller, 1944): People seem to increase both the intensity and the persistence in goal-related activities the closer they are to the attainment of their goals. Similarly, developmental research illustrated that approaching a deadline for accomplishing a developmental task results in an increased motivation for this task (Wrosch & Heckhausen, 1999, 2005). This might be the case because a particular goal gains on priority and importance when the time for its achievement is reducing. In turn, people might invest more effort in important goals. Empirical evidence supports this reasoning. In a study with adolescents, Bjørnebekk and Gjesme (2009) found that motivation increased, the nearer a future goal or event was perceived in time. This is not surprising given that temporal distance is related to an abstract (vs. concrete) representation of goals (e.g., Trope & Liberman, 2003). In fact, there is substantial evidence that goals are more likely to be pursued and attained, the more concrete their representation (Austin & Vancouver, 1996).

Applying this reasoning to motives, we assume that a greater urgency is related to a higher salience of motives. In other words, we hypothesize that a limited future time perspective is related to the activation of motives. When time is perceived as limited, the wish to fulfill one's motives should not be postponed into the future, but should instead be tied to an urgency to satisfy one's motives in the present. There is considerable empirical evidence that limited future

time perspective facilitates goals that are gratifying immediately (such as emotional goals), whereas extended future time perspective is associated with goals rewarding in the future (such as knowledge goals; Carstensen, 1995; Carstensen & Fredrickson, 1998; Carstensen, Isaacowitz, & Charles, 1999; Fredrickson & Carstensen, 1990; Fung et al., 1999).

The perception of future time can influence behavior without requiring deliberate thought (Johnson & Tan, 2009). Therefore, the perception of future time may also affect *implicit* motives that are not consciously represented. In fact, implicit motives are automatically activated in situations offering the possibility to act according to one's motives (McClelland et al., 1989; Schultheiss & Brunstein, 2010; Sokolowski & Heckhausen, 2006). Achievement-related situational cues (such as the possibility to receive an immediate feedback on performance) will activate achievement motives, power-related situational cues (such as the possibility to influence other people) will activate power motives, and affiliation-related situational cues (such as the possibility to socialize) will activate affiliation motives. Although future time perspective does not represent a situational affordance to enact one's motives, it activates a sense of urgency to pursue emotionally meaningful and immediately gratifying goals (Carstensen et al., 1999). As the satisfaction of implicit motives – irrespective of their content – is immediately gratifying (Rheinberg & Engeser, 2010), a shorter future time perspective should activate all three implicit motives, achievement, power, and affiliation/intimacy. And as "…time left in life is inversely correlated with chronological age" (Fung et al., 1999, p. 596) and so is future time perspective (Cate & John, 2007; Lang & Carstensen, 2002; Löckenhoff, Reed, & Maresca, 2012), we expect generally higher implicit motives in older compared to younger adults.

To test these hypotheses, we use a combination of a correlational and an experimental design. We investigate (a) age-related differences in implicit motives and (b) differences in implicit motives after a manipulation of time perspective. We expect higher scores in implicit

motives for older compared to younger adults and for participants in the short compared to the long future time perspective condition.

Method

Participants and Procedure

Participants were recruited via student mailing lists, flyers, and personal requests at the Senior University of Zurich and in a local senior social club. A total of $N = 108$ adults participated in the study. The majority of them ($n = 95$) participated online (via SoSciSurvey; Leiner, 2010). Nine of the participants were excluded because they either spent too much time on a single page of the online survey suggesting that they did not fill out the questionnaire in one sitting, or because they answered the open-ended questions too briefly to allow content coding of implicit motives. Thirteen participants were tested using paper-and-pencil because they had no internet access. Two of these participants were excluded from the dataset because their stories were remarkably long and elaborated and they thus most likely exceeded the indicated time limit. Research suggests that online and paper-and-pencil measurements of implicit motives offer comparable results (Blankenship & Zoota, 1998; Bernecker & Job, 2011; Schultheiss, Liening, & Schad, 2008). The final sample consisted of $n = 55$ older adults ($M = 68.05$ years, $SD = 6.43$, range 54 – 86) and $n = 53$ younger adults ($M = 25.60$ years, $SD = 3.21$, range 18 – 32). Half of the participants ($n = 54$) were males.

After providing written informed consent, participants completed the first measure of implicit motives. This baseline assessment of implicit motives was followed by the experimental manipulation of future time perspective. Subsequently, implicit motives were assessed again. Finally, participants provided demographic information and completed questionnaires not relevant for the present research. At the end of the session, participants were thanked and

debriefed. All participants were given the possibility to participate in a lottery for two vouchers of approximately 30 USD in the local currency.

Assessment of implicit motives. Implicit motives were assessed with the picture story exercise (PSE). Participants were asked to write imaginative stories based on picture cues. The instruction was based on Pang (2010b) and Schultheiss and Pang (2007). We chose eight pictures and matched them into two comparable sets. These sets are equally suitable for eliciting motive imagery content for achievement, power, and affiliation/intimacy (see Pang, 2010b). The first set included the following pictures: (a) girlfriends in café with male approaching, (b) a soccer match, (c) a ship's captain talking with another man, and (d) a man and a woman on a trapeze. The second set included (a) a couple sitting on a bank by the river, (b) a bicycle race, (c) a soldier observing the surroundings from the top of a tank, and (d) two female scientists in a laboratory. The four pictures of each set were presented in a random order. The two picture sets were in their turn randomly rotated and used for the assessment of implicit motives either before or after the experimental manipulation. Participants were instructed to write a story about each picture and to report what might have happened beforehand, who the persons depicted are, what their feelings and intentions are, and what might happen afterwards. Participants were asked to take about four minutes for each picture (five minutes in the paper and pencil version to adjust for slower writing speed, see Schultheiss et al., 2008). In the online version, participants were asked 20 seconds before the four minutes had expired to finish the story and to continue to the next page. The content of each story was coded by the first author according to Winter's (1994) manual for scoring motive imagery in running text. In order to ensure that the coder was blind to participants' age and the experimental condition, the stories were randomized and copied in a separate file that did not include any other information. The stories were coded in this separate file. An independent coder recoded a random selection of 10% of the stories. The coders

reached an overall agreement of Cohen's Kappa of .85, which is a satisfactory agreement (Pang, 2010b; Schultheiss & Pang, 2007). Based on the Smith, Feld, and Franz's (1992) procedure, we corrected the raw scores for protocol length, summed the corrected values across stories and multiplied them by 1,000 (Pang, 2010b). These values were subsequently aggregated across the three motives before and after the manipulation. The descriptive statistics for each motive are reported in Table 1.

Manipulation of future time perspective. Future time perspective was manipulated using two different scenarios (for the same procedure, see Fredrickson & Carstensen, 1990; Fung et al., 1999). In the scenario for a short future time perspective, participants were asked to imagine the following situation: "In two weeks you will move abroad on your own. None of your family members or friends will accompany you. They will stay here. You are preparing everything for your departure." (Fung et al., 1999; p. 599). In the scenario for a long future time perspective, participants read: "A few days ago you went to see your doctor. He told you about new medical insights that will extend your life expectancy for another 20 years. In those 20 years you will still be in good health." (Fung et al., 1999; p. 597). Such scenario manipulations of future time perspective have been shown to effectively manipulate future time perspective (e.g. Allemand, 2008). Fifty-seven participants were randomly assigned to the short future time perspective, 51 participants were assigned to the long future time perspective. As the effects of manipulations on implicit motives level off after approximately 20 minutes (Schultheiss et al., 2004), we re-activated the manipulation by asking the participants open-format questions concerning the scenario prior to the presentation of each PSE picture (e.g., "How will you travel to your new place of residence?"). The responses were not analyzed.

Results

First, we tested the hypothesis of age-related differences in implicit motives by comparing participants' scores of the baseline measure. An independent-samples *t* test confirmed the hypothesis that young and older adults differ in their implicit motives, $t(104) = -3.05$, $p = .003$, $d = 0.59$. As expected, younger adults scored lower on the implicit motives ($M = 112.23$, $SD = 41.15$) than older adults ($M = 140.14$, $SD = 52.07$). Although we did not have specific hypotheses regarding the three motives, we explored if power, achievement, and affiliation/intimacy motives showed the same age-related pattern. The age-related differences were supported for the achievement motive ($t[90.51] = -2.85$, $p = .005$, $d = 0.60$) and marginally for the affiliation/intimacy motive ($t[104] = -1.70$, $p = .09$, $d = 0.33$). No significant age-related differences were found for the power motive ($t < 1$).

In a second step, we tested for differences in implicit motives due to the experimental manipulation of future time perspective. We ran a repeated-measures ANOVA with implicit motives before and after the manipulation as a within-participant factor and the manipulation as a between-participants factor. To control for age of the participants, we included the age group (young vs. old) as a covariate. We found a main effect of age group, $F(1,102) = 6.25$, $p = .01$, $\eta^2_p = .06$, and manipulation, $F(1,102) = 5.68$, $p = .02$, $\eta^2_p = .05$. Importantly, the main effect of manipulation was qualified by an interaction of the within-participant factor (assessment before and after the manipulation) and the manipulation, $F(1,102) = 3.74$, $p = .056$, $\eta^2_p = .04$. As can be seen in Figure 1, the implicit motives scores of the two experimental groups did not significantly differ before the manipulation, $t(104) < 1$. However, and in line with the hypotheses, after the manipulation participants in the short future time-perspective condition scored significantly higher ($M = 145.92$, $SD = 61.15$) on implicit motives than participants in the long future time-perspective condition ($M = 115.10$, $SD = 52.80$), $t(104) = 2.96$, $p = .004$, $d = 0.58$. Again, we explored if power, achievement, and affiliation/intimacy motives were affected by the

manipulation in the same way. Although all motives showed the same tendency as the composite motive score, none of them was statistically significant (all *p*s > .14). Finally, age did not significantly interact with the experimental condition ($F < 1$).[1]

Discussion

The present study investigated differences in implicit motives between young and older adults. In line with the hypotheses, older adults scored higher on implicit motives than younger adults. Supporting the assumption that this age-related effect is a consequence of differences in future time perspective, implicit motives were higher after an experimentally induced decrease in future time-perspective compared to implicit motives after and experimentally induced increase in future time perspective.

Time and Motivation

Our findings are consistent with previous research on the role of time for motivational strength (Bjørnebekk & Gjesme, 2009; Förster et al., 1998; Gjesme, 1996; Mischel, Grusec, & Masters, 1969; Wrosch & Heckhausen, 1999, 2005). The shorter the time frame for motivated behavior, the stronger is the motivation for this behavior. This finding is also in line with studies focusing on social motivation (Carstensen et al., 1999), developmental deadlines (Wrosch & Heckhausen, 1999, 2005), and the intensity theory of motivation (Brehm & Self, 1989). This research and our findings lead to the question of which are the mechanisms that explain the relationship between shorter time perspective and motivation. Our study suggests that one driver that might underlies the propositions and findings of these different frameworks might be the change of implicit motivation with time.

Stability of Implicit Motives

Research on implicit motives has largely neglected the adult development of implicit motives. This might be due to the common assumption that implicit motives are relatively stable

across adulthood (e.g. McAdams, 1992). Our results provide evidence for systematic changes in implicit motives related to age and future time-perspective: It seems that with increasing age (and decreasing future time perspective), implicit motives become more relevant. Individuals experiencing a narrowing of their future might focus on the pursuit of the most affectively rewarding experiences. As the core of implicit motives is the desire for particular affective experience (Job, Bernecker, & Dweck, 2012), the activation of implicit motives might lead to this particular affective experience, irrespective of the content of the motive.

The results for the three separate motives were less consistent. Although we had no specific hypotheses for the relationship between future time perspective and the three different implicit motives, we found some differences between the motives. There was a significant difference between younger and older participants in the achievement motive and a marginal difference in the affiliation/intimacy motive. The power motive did not differ between younger and older adults. In addition, the effect of the time-perspective manipulation was not significant when the three motives were tested separately. Although there might be some theoretical reasons for the differences between the motives, the most obvious explanation of the non-significant results regarding the individual motive scores is the relatively low reliability of the implicit motive measurement as compared to other methods (see Tuerlinckx, De Boeck, & Lens, 2002). Due to the coding process, the score for each motive includes a substantive amount of error variance. Aggregating the scores enhances the reliability and, thereby, enables to detect significant effects. This explanation is supported by the fact that the non-significant effects for all of the three motives were in the same direction as the significant effects for the composite scores in the present study (i.e., shorter time perspective and younger age were related to higher motive scores).[2] Including more PSE pictures as a method to increase reliability is often not

viable as it increases the assessment time and changes the measurement itself (Tuerlinckx et al., 2002). Future studies are needed to replicate the findings in a larger sample.

Generalizability of the Results

The focus of the current study was on implicit motives. It remains an open question if the results of the current study can also be generalized to explicit motives. We assume that this is not the case. Implicit and explicit motives are two unrelated motivational constructs that have different precursors and concomitants (McClelland et al., 1989, Thrash, Cassidy, Maruskin, & Elliot, 2010). Whereas implicit motives are related to incentives that lie in the activity itself and to spontaneous behavior, explicit motives are related to socially and cognitively controlled behaviors (McClelland et al., 1989). As the effects of time perspective seem to be automatic and unconscious (Carstensen et al., 1999), time perspective should have a stronger effect on implicit motives as compared to the explicit, self-declared motives. In line with this assumption, spontaneous behavior is better predicted by implicit than by explicit attitudes (Gawronski, Hofmann, & Wilbur, 2006). It would be interesting to investigate a possible dissociation of the effect of future time perspective on implicit and explicit motives.

The current study design is cross-sectional. Longitudinal studies are needed in order to control for cohort effects and to capture non-linear trajectories of implicit motives across adulthood. With our study design we were not able to address the influence of age-typical life stages like parenthood or retirement that might additionally influence implicit motives (Veroff et al., 1984).

We further only inferred future time perspective from the robust relationship it has with age and the use of established experimental manipulations, but we did not explicitly assess future time perspective. Note, however, that the experimental findings of the current study support the assumption that implicit motives change due to changes in future time perspective. This is in line

with the repeated finding of a strong relationship between future time perspective and chronological age (Cate & John, 2007; Lang & Carstensen, 2002; Löckenhoff et al., 2012).

Finally, the generalizability of the findings might be reduced due to some possible confounds in the scenario inducing limited future time perspective. Limited future time perspective is induced by the description a clear deadline, i.e., a move to another country. However, the scenario also mentions that one's family and friends stay behind, which represents an affiliation-related concern. There is no such concern in the scenario for the expanded future time perspective. Thus, this procedure makes it difficult to disentangle the effects of future time perspective from affiliation-related concerns. However, as the strongest driver between our findings seemed to be the achievement motive and as the findings were more clearly evident in the age group comparison than in the experimental manipulation, we conclude that affiliation-related concerns are unlikely to explain the differences in implicit motives between young and older adults in the current study.

Conclusion

The present study demonstrates that age and future time perspective are important factors for motivational strength even in motive domains that are assumed to be relatively stable across adulthood. It seems that implicit motives develop across adulthood, contradicting the original position that they are stable personality traits. Feeling that one has not much time left in life leads to stronger activation of implicit motives and might give the individual the possibility to engage in activities that are rewarding here and now.

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Footnotes

[1]To test for gender effects, we ran the same analyses including gender as a predictor. There was no main effect of gender, no Gender x Age effect, and no Gender x Manipulation effect on implicit motives in the current study.

[2]As based on group comparisons of the three implicit motives after the manipulation.

Table 1

Descriptive Statistics and Bivariate Correlations

	1	2	3	4	5	6	*M*	*SD*
1. Achievement motive before manipulation	-						44.12	32.32
2. Power motive before manipulation	-.04	-					46.28	28.56
3. Affiliation/intimacy motive before manipulation	.15	-.15	-				36.31	24.11
4. Achievement motive after manipulation	.13	.21*	.07	-			44.35	33.46
5. Power motive after manipulation	-.01	.03	.19	-.03	-		48.87	38.15
6. Affiliation/intimacy motive after manipulation	.31**	-.05	.25*	.20*	.14	-	37.79	21.23

Note. $^{**}p < .01$. $^{*}p < .05$.

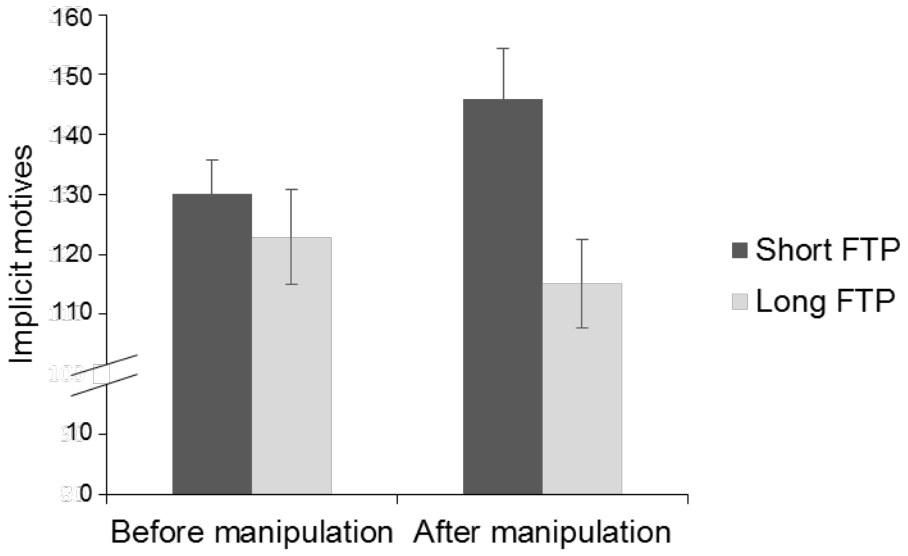

Figure 1. Implicit motives before and after the manipulation as a function of future time perspective. Error bars represent standard errors of the mean. FTP = future time perspective.